



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,159	06/08/2001	David M. Baggett	09765-011002	1014

26161 7590 03/12/2008  
FISH & RICHARDSON PC  
P.O. BOX 1022  
MINNEAPOLIS, MN 55440-1022

EXAMINER
----------

MOONEYHAM, JANICE A

ART UNIT	PAPER NUMBER
----------	--------------

3689

MAIL DATE	DELIVERY MODE
-----------	---------------

03/12/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

1 RECORD OF ORAL HEARING  
2  
3 UNITED STATES PATENT AND TRADEMARK OFFICE  
4

5  
6 BEFORE THE BOARD OF PATENT APPEALS  
7 AND INTERFERENCES  
8

9  
10 Ex parte DAVID M. BAGGETT  
11

12  
13 Appeal 2007-2648  
14 Application 09/877,159  
15 Technology Center 3600  
16

17  
18  
19 Oral Hearing Held: February 20, 2008  
20

21  
22  
23 Before HUBERT C. LORIN, ANTON W. FETTING, and JOSEPH A.  
24 FISCHETTI, Administrative Patent Judges

25  
26 ON BEHALF OF THE APPELLANT:

27  
28 CHRIS MALONEY, ATTORNEY  
29 Fish & Richardson  
30 P.O. Box 1022  
31 Minneapolis, MN 55440-1022  
32

33  
34 The above-entitled matter came on for hearing on Wednesday, February 20,  
35 2008, at The U.S. Patent and Trademark Office, 600 Dulany Street,  
36 Alexandria, Virginia, before Virginia Johnson, Freestate Reporting, Inc.

P R O C E E D I N G S

JUDGE LORIN: Okay, Counsel, we're ready for the hearing in Appeal Number 2007-2648. Now, could you please give me your name, please?

MR. MALONEY: Chris Maloney, Registration Number 29670.

JUDGE LORIN: Could you spell your last name, please? Counsel, could you spell your last name, please? Counsel.

MR. MALONEY: Yes.

JUDGE LORIN: Could you spell your last name, please?

MR. MALONEY: M A L O N E Y.

JUDGE LORIN: Okay, Counsel, we've read the record and we know the issues, you have 20 minutes. You may proceed.

MR. MALONEY: Thank you. Today I'd like to discuss Claims 1, 2 and 4, but before I get to the claims, I'd like to have a couple preparatory remarks that may be helpful for the Board in understanding this invention.

Essentially, my client has provided an approach to solving a very computationally challenging problem of producing, so called, constructed fares as is extensively explained by my own prior art as well as ATPCO references.

Constructed Fares is a term of art used to refer to producing fares for minor markets, especially for international travel. As an example we give in the specification, for example, try constructed fare from Nome, Alaska to Nice, France. It's involving four cities; Nome to New York, New York to Paris and Paris to Nice. And, in general the airline industry cannot publish fares for all these various types of markets. They do, however, publish fares

1 for, so called, gateway cities, major markets. Like, for example, from New  
2 York to Paris. But, if someone is in Alaska and wants to get to, say, Nice or  
3 even Paris, France, for that matter, there's not a published fare for that. And,  
4 what, what the airline industry has done through these rules and these data  
5 structures that ATPCO has developed is produce constructed fares.

6 And, there are three terms that are used in ATPCO; constructed fare,  
7 which is a combination of one or two add-on amounts in the fare amount  
8 that results in the amount that can be used for pricing air, air transportation,  
9 also know as an unpublished fare, and arbitrary, which is the word we use  
10 for add-on is also used by ATPCO, and basically, that's the amount that can  
11 be combined with a published fare to produce a, so called, unpublished fare  
12 or a constructed fare. And, a published fare is an amount published as is  
13 filed with regulatory agencies for use in pricing air transportation from one  
14 city to another.

15 And, for the purpose of this document the term published fare refers  
16 to both public and private fares; that's all from our specification. The  
17 claimed approach takes advantage of inventor's recognition that very few  
18 cities are actually part of arbitraries and that is the complete set of arbitraries  
19 and all carriers only cover a small portion of the total fares. And, as the  
20 approach starts only with those interior cities known to appear in some  
21 arbitraries, the inventor also recognizes there's a need to consider all --  
22 there's, there's no need to consider all cities in the world for the gateway  
23 cities, but rather it's only necessary to consider those cities as gateway cities  
24 if the city is involved as some arbitrary whose interior city is a city currently  
25 being examined.

26 In contrast, the reference ATPCO was, was essentially discussed by

1 us, and it produces, as a result of cross tabulation, a software product called  
2 the unpublished fares product, which we believe -- which is available from  
3 ATPCO, and which we believe is what is referred to in the Gardner  
4 reference used by the Examiner.

5 And in -- with respect to Gardner, we believe that Gardner does not  
6 produce any or provide any means of constructing or producing constructed  
7 fares. Gardner merely makes reference, makes reference to the unpublished  
8 fares product of ATPCO or some equivalent fares -- upon unpublished fares  
9 product and uses these unpublished fares in constructing travel itineraries.

10 But, that's not the same process as what we're talking about which is  
11 actually producing those unpublished fares that Gardner stores in the data  
12 base that he refers to on his application.

13 Now, turning my attention to Claim 1, Claim 1 is directed to a novel  
14 method of producing constructed fares and we define in this, in the preamble  
15 that constructed fares include an arbitrary added to a published fare and  
16 that's straight from ATPCO. The novel features of this claim, however,  
17 which distinguish Claim 1 over Gardner and ATPCO involve the  
18 preprocessing that, that we recite in Claim 1. And, particularly the  
19 preprocessing of returning interior cities that appear with gateway cities in  
20 arbitrary foreign airline.

21 The, the approach taken by ATPCO, as, as we understand, is basically  
22 a cross tabulation of all interior cities and all gateway cities in the world  
23 producing, producing this product which has millions of constructed fares in  
24 it and tends to get generated at periodic times. I believe, I think like once a  
25 year, or something like that, it gets published; however, it's a very  
26 computationally extensive calculation because it involves literally billions

1 upon billions of possible combinations.

2 By, by providing these -- this preprocessing, particularly the, the hash  
3 tables, which are the subject of the dependent claims, we're able to cut down  
4 on this processing significantly as set forth in the specification. So, the  
5 preprocessing involves determining these interior cities that appear with the  
6 gateway cities and it takes into consideration the arbitraries that are  
7 represented in ATPCO's ordered sets of two cities with an unpublished fare  
8 amount that gets added to a published fare.

9 And, it, it includes the feature of searching a data base of published  
10 fares for gateway cities that correspond to the determined interior cities  
11 appearing in the arbitrary. So, it essentially -- Claim 1 is directed to the  
12 embodiment that is shown in Figure, I believe is, 3-A of our specification or  
13 the specification, and, involving the, the four bottom boxes of, of that figure.  
14 And, we produced a constructed fare by applying the arbitrary corresponding  
15 to the, to one of the interior, interior cities to a published fare involved being  
16 one of the gateway cities that correspond to the determined interior city  
17 appearing in the arbitrary to produce the constructed fare.

18 So, this is different is what would be described by ATPCO and I  
19 believe that not at all described at all in Gardner in that ATPCO simply just  
20 takes a cross product of all possible combinations; interior cites and gateway  
21 cities and then tests to whether or not these particular combinations produce  
22 valid constructed fares. But, it goes through a lot of extensive additional  
23 computations which are not required by our approach because our approach,  
24 basically, sets up these tables or data structures as, as in the dependent  
25 claims or as in, in, as in Claim 1 preprocesses these things in such a manner  
26 that you have fewer look-ups and fewer calculations to perform to come up

1 with the potential constructed fares.

2 Now, each, each of ATPCO as well as Appellant's invention, claimed  
3 invention have some subsequent checks which go on as to whether or not  
4 these can be valid fare constructions because of other rules that are involved  
5 in ATPCO. We mention some of them in our -- later in the specification, but  
6 they're not really part of the algorithm that -- not the essential part of the  
7 algorithm that is being claimed in Claim 1.

8 So, the Examiner relies upon Gardner and argues that the feature  
9 pertains to preprocessing as disclosed at Figure 7 of Gardner by the  
10 unpublished fare retrieval that is discussion involving Paragraphs 93 to 102.  
11 And, we strongly disagree with this line of argument. In particular, we do  
12 not see anything in Gardner which, which discusses how these, so called,  
13 unpublished fares are, in fact, constructed.

14 Gardner does not provide any process for constructing these  
15 unpublished fares. Gardner merely uses these unpublished fares. And, what  
16 Gardner is intentionally doing is Gardner is producing travel, travel options  
17 involving flights and fares, and he's going to present these travel options to a  
18 user and he wants to consider when he presents these travel options whether  
19 or not there are published fares or unpublished fares that could satisfy the  
20 travel needs of, of the client.

21 That would be true with any travel planning system; however, what  
22 Gardner is not doing with the, with the essential in order for Gardner to be at  
23 all relevant to Claim 1 is that Gardner is not actually producing those  
24 unpublished fares that are stored in his data base. He's just merely using  
25 those unpublished fares.

26 Our invention, in contrast, is directed to an algorithm or technique for

1 producing those unpublished fares. So, the, the essential features there for  
2 our Claim 1 that would distinguish Claim 1 over Gardner is that Gardner  
3 does not really describe any of the elements of Claim 1; does not describe  
4 preprocessing and does not describe the action of producing a constructed  
5 fare. Although we do understand that ATPCO does describe a technique for  
6 producing constructed fares, but we believe, we actually consider ATPCO to  
7 be the more relevant reference. We believe that ATPCO, however, does not  
8 produce a constructed fare in the manner which is set forth in Claim 1 and  
9 particularly does not involve the preprocessing.

10 The Examiner also argues that Gardner discloses the claim searching  
11 of the -- this has to do with the gateways in, in, in Figures 7-B and 8-A.  
12 Gardner, indeed, refers to these elements as unpublished fare retrieval  
13 validation and, and published fare ruled validation modules and unpublished  
14 rule retrieval validation module. But, again, Gardner is searching a data  
15 base to retrieve an unpublished fare, the claim's step, if you will, involves  
16 searching a data base of published fares for gateway cities corresponding to  
17 the determined interior cities appearing in the arbitraries.

18 So, in other words, the result of the searching step in Claim 1 is not a  
19 fare, but is a gateway city. And, it's a particular type of gateway city. It's a  
20 gateway city that corresponds to the determined interior cities that appear in  
21 the arbitraries. So, it basically further defines, if you will, the preceeding  
22 element of the turn of the interior cities.

23 Gardner does not ever retrieve a list of gateway cities or list of  
24 arbitraries. Gardner is merely just retrieving fares. The Examiner also  
25 argues that Gardner discloses the claim producing of a constructed fare at, at  
26 Figure 8 and Paragraph 97. We believe that that does not at all relate to



1 producing constructed fares. At Figure 8-A in Page 7, Paragraph 97  
2 discusses trip construction, not fare construction.

3 Trip construction is a process of finding sets of flights and fares that  
4 are usable with the flights. So  
5 -- but it does not involve producing a, a fare, if you will, an artificial fare, a  
6 constructed fare. Rather, what it merely involves is that a traveler desiring  
7 to travel from point A to point B will need a process that determines the, the  
8 airline flights that can take them from point A to point B, whether direct  
9 flights or connecting flights. And, then we'll be -- then there's a separate  
10 process involving faring that determines the fares that can be used with the  
11 particular sets of flights that, that have been retrieved by the scheduling  
12 process of the flight search process. That essentially what Gardner is talking  
13 about here, Gardner is not talking about any sort of mechanism for  
14 producing unpublished fares.

15 Silently in Gardner, Claim 1 requires applying an arbitrary  
16 corresponding to one of the interior cities to a published fare involving one  
17 of the gateway cities that corresponds to the determined interior cities  
18 appearing in this arbitraries produced a constructed fare. Gardner has no  
19 teachings applying any arbitrary to anything. Gardner doesn't even  
20 recognize an arbitrary. The Examiner appears to take the position that when  
21 Gardner retrieves a, a, a unpublished fare from the, the unpublished fare  
22 product data base that Gardner is, in fact, applying and using an arbitrary  
23 because the Examiner assumes that the unpublished fare product in Gardner  
24 is a result of applying an arbitrary to a published fare. And, that, in deed,  
25 may be correct that, that unfair product -- the unpublished fare product is a  
26 result of applying this arbitrary to an unpublished fare; however, there's

1 nothing in Gardner that says that you can deconstruct that unpublished fare  
2 to get at the arbitrary and it just seems to be kind of a worthless exercise  
3 anyway because I don't understand what, what use that would be in Gardner.

4 I'm, I'm not honestly clear as to why Gardner is even used by the  
5 Examiner because anything that Gardner  
6 -- the Examiner says that Gardner teaches what he does not teach, is in fact  
7 taught in ATPCO with respect to constructed fares, arbitraries and published  
8 fares and unpublished fares; however, what is not, not disclosed in ATPCO,  
9 or as Gardner or any or applicant's prior art is the exact processing that is set  
10 forth in Claim 1 in which I've just gone over.

11 Claim 2 -- I'd like to turn my attention to Claim 2, now. Claim 2  
12 includes a feature of -- at that determining interior cities includes accessing a  
13 hash table indexed by airline interior city paired to return a list of gateway  
14 cities to which an airline has arbitraries to specify the interior city. This is  
15 one of the, this is again the more -- one of the more details of the  
16 preprocessing that we've already -- I've already discussed.

17 Essentially, if you look at Figure, I believe it's 2 -- yeah, 2-A, we  
18 compute these three hash tables and this is one of the hash tables we, we  
19 recompute and it corresponds to the Hash Table 1 that is accessing Step 46  
20 in Figure 3-A. And, essentially, what this involves is accessing a hash table  
21 that was predefined, if you will, by an index which is airline interior city  
22 paired to return a list of gateway cities. And, this would be used later on in  
23 the processing to, to access another hash table which is the subject of Claim  
24 4 that returns a list of, of gateway cities for which there is a published fare.

25 And, essentially the Examiner takes the position that she can ignore  
26 all the elements of this claim, the, the point of reason, I don't exactly

1 understand but I guess having something I'll do it, she does not actually like  
2 the language we used with respect to the action of accessing a hash table to  
3 return a list of gateway cities. She somehow believes that this does not  
4 recite a positive step. That 8 is being performed, and again I don't quite  
5 understand this reasoning, because accessing a table in a computer which is  
6 where all this takes place, which is according to the claim, is a physical  
7 action that takes place in a computer.

8       Moreover we do have a physical result that's a, that is a return of a list  
9 of gateway cities which is going to be used further, further on in the process.  
10 So, I don't quite understand the Examiner's reasoning here, but I believe  
11 that, nonetheless, that we have recited a positive action and a practical result  
12 in Claim 2. And, the Examiner has not shown where Gardner or ATPCO,  
13 for that matter, described use of a hash table. Examiner advanced a second  
14 argument with respect to that, that, that we're not providing meaningful or  
15 specific definition of a hash table. We believe that the word hash table is a  
16 well known computer science construct to one of ordinary skill in the art  
17 would clearly understand what hash table meant. Examiner had apparently  
18 no problems in finding that in the literature, but we've done one better than  
19 just provide a, an abstract definition of what a hash table was, we actually  
20 told the person of ordinary skill in the art how to construct these particular  
21 hash tables that are being used in each, in each, in each one of the  
22 embodiments of this invention. And, so --

23       JUDGE LORIN: Counsel, Counsel, Counsel.

24       MR. MALONEY: Yes.

25       JUDGE LORIN: You may want to start wrapping things up. You  
26 may want to start wrapping things up.

1 MR. MALONEY: Wrapping things up. Okay.

2 JUDGE LORIN: You have about two more minutes left.

3 MR. MALONEY: I have how many minutes left?

4 JUDGE LORIN: Two more.

5 MR. MALONEY: Okay. So, in, in essence we believe that the  
6 Examiner made unsupported assertions regarding features that are not shown  
7 in either ATPCO or Gardner, and the Examiner has not shown us  
8 specifically where any of the preprocessing is disclosed. The Examiner has  
9 never once raised any rejections under 112, 2nd paragraph. If the Examiner  
10 felt that we were claiming something would not be understood to one of  
11 ordinary skill in the art, and I believe that the Examiner's arguments are  
12 completely off base with respect to these claims in this rejection.

13 I finally would like to point out in Claim 4 -- in Claim 4 it talks about  
14 accessing another hash table. There's a hash table that is indexed by airline  
15 gateway pair to return a list of gateway cities that the airline publishes fares  
16 from to determine gateway city to another gateway city. And, so in a sense  
17 when you, when you provide a constructed fare, whether it's a one --  
18 whether it's a two component or three component constructed fare, you have  
19 to, basically, have three or four cities, so the two components fare which is  
20 what this claim is directed to at this point. You would have a fare from, say,  
21 Nome, Alaska to New York City to Paris. That's a, that's a two component  
22 constructed fare and that involves three cities; Nome, Alaska, which is the  
23 minor city, one gateway city which is New York, and the other gateway city  
24 which is Paris. That's this second hash table is getting involved with respect  
25 to finding those, those gateway city pairs.

26 And, in, in a three component constructed fare, there's going to be

1 another city that's going to be, say, the other minor city is going to be added  
2 to the other end of a gateway city. So, you'd have Nome, Alaska to New  
3 York to Paris to Nice, France; that's the four component constructed fare  
4 which is the subject of another one of the dependent claims. Do you have  
5 any questions for me because I, I can end now if you don't have any  
6 questions.

7 JUDGE LORIN: No, thank you, Counsel. We have no more  
8 questions.

9 MR. MALONEY: Can you tell me who was on the Board, today?

10 JUDGE LORIN: Yes, there's Judge Fischetti, Judge Fetting and I am  
11 Judge Lorin.

12 MR. MALONEY: Okay, thank you.

13 JUDGE LORIN: Alright, thank you, very much. We'll take your  
14 comments under advisement.

15 MR. MALONEY: Bye-bye.

16 (Whereupon, the proceedings concluded.)